



10Gbps 850nm 2.5mW Single Mode 1x4 VCSEL Chip Array

Part No. VCCA4-85C10G



Features

- 850nm VCSEL 4ch chip array
- Single longitudinal mode
- Bit data rate more than 10Gbps
- Oxide isolation technology
- Low threshold current
- High reliability

Applications

- 10Gbps data transmission
- Optical USB
- Active Optical Cable (AOC)
- HDMI
- Sensing applications

Specifications

Absolute Maximum Ratings						
Parameters	Min.	Max.	Unit	Conditions		
Storage Temperature	-40	105	°C			
Operating Temperature	-25	85	°C			
Reflow Soldering Temperature		320	°C	10 seconds		
Reverse Voltage		5	V			
Maximum Continuous Current		10	mA			
ESD Exposure (Human Body) Model		2K	V			

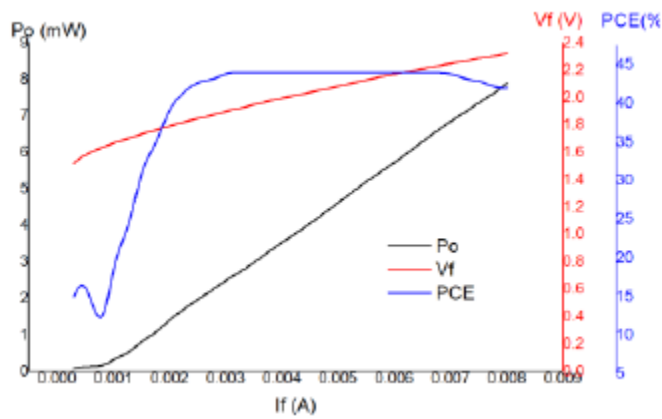
Electro-Optical Characteristics (T _{op} =25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical Output Power	P _o	-	2.5	-	mW	I _F =3mA
Threshold Current	I _{th}	-	0.5	-	mA	
Forward Current	I _F	-	3	-	A	
Laser Forward Voltage	V _F	-	1.89	-	V	I _F =3mA
Slope Efficiency	η	-	0.98	-	mW/mA	P _o =2.5mW
Series Resistance	R _s	-	84.9		Ohm	I _F =3mA
Peak Wavelength	λ _p	840	850	860	nm	I _F =3mA
Beam Divergence	FWHM _B	-	25	-	Deg	
Wavelength Temperature Drift	Δλ _p / ΔT	-	-	0.07	nm/°C	I _F =3mA
Fall Time (20-80%)	T _f	-	133	136	ps	
Rise Time (20-80%)	T _r	-	126	127	ps	
Die Size		-	250x228	-	um	
Soldering Temperature	T _{sol}			260	°C	5 seconds

Note: Electro-Optical Characteristic with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

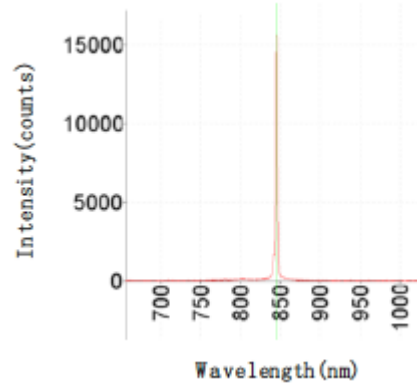


Typical Characteristics

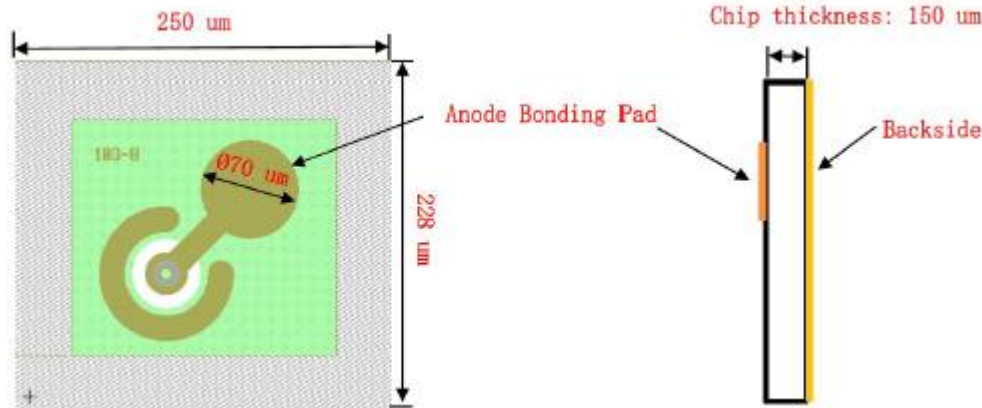
LIV Curve



Intensity vs. Wavelength



Outline Dimensions



Pitch = 250 μm +/- 10 μm



Additional Notes

- The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.
- Specifications are subject to change without notice.